

Mohave County Miner.

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Shannon Company is Praised by Walker.

Shannon's death warrant, obituary and epitaph have been written half a dozen times by as many engineers and geologists in the past 10 or 12 years. Eight or nine years ago it was declared that there was less than 150,000 tons of possible ore in the property. As a result Shannon has many enemies, because no one who has condemned the property is able to forgive it for making good.

I am satisfied that there is more ore in sight in the Shannon property now than there was the first time I went through the mine eight years ago, and the new ore being opened up at greater depth is fully as high in grade if not slightly richer than that mined several years ago. It is interesting to note, also, that neither has the tonnage of concentrating ore increased nor the percentage of smelting ore decreased.

The known mineralized area is much larger now than it was a few years ago. It has been demonstrated that the ore goes to greater depth and also that it extends much farther to the east and northeast than anyone until quite recently believed. A lot of good ore is being opened up in new ground on the Shannon group of claims and a large area remains unprospected.

Geologically considered the Shannon group of 80 or 90 acres is a big mass of limestone lying on quartzite. The limestone has been cut irregularly by numerous porphyry dikes, which in places carry good chalcocite concentrating ore. Along the contacts and extending out into the limestone are large and small deposits of smelting ore. The irregular shape and occurrence of these ore bodies make it impossible to measure up tonnage accurately in advance; but the 1,000 feet of new development and exploratory openings, which are being driven every month, are continually finding ore, as are also the superficial open cut workings.

Since Shannon began producing, 11 or 12 years ago, it has taken out 2,301,905 tons of ore, of which 1,202,130 tons averaging 4.43 per cent copper was smelting ore; 1,087,930 tons was concentrating ore averaging 3.10 per cent; 7,888 tons was used for converter linings and 4,957 tons has been leached experimentally. A conservative estimate of the company's production from its own ores is 13,000,000 pounds of copper. That it will produce at least as much more from the Shannon group of claims alone seems reasonably certain. What it will do in excess of this will depend largely upon future developments in its outlying groups of claims.

Few people realize that all of Shannon's ore is mined by hand. On top of the mountain where the mine is located, approximately 1,000 feet above the railroad, there is no available power, and experience has demonstrated that drifts can be driven and ore mined and delivered more cheaply by hand than it could be with the aid of any power that could be supplied. Of course hand work is slower; but the rock is soft and there are so many different faces, drifts, crosscuts, tunnels and stopes in the ore area that it never becomes necessary to make very rapid progress at any one point.

The fact that the mine is well opened up ahead and has plenty of ore in sight finds confirmation in the fact that Shannon has recently discontinued night work and is now mining its customary 800 and 850 tons of ore with one day shift. Although one of Arizona's new labor laws makes it impossible to get more than 7 1/2 hours work out of a man daily, Shannon is maintaining this output with about 550 men employed at the mine in all capacities.

About 125 tons of ore is being quarried from open cuts above and between the old workings on top of Shannon hill. The country is so precipitous that there is plenty of dumping room for waste. In the large areas that are being broken down numerous bunches of good ore, red and black oxides, car-

bonates and even copper glance are found. The average grade of this ore is around 4 per cent.

There is a considerable tonnage of low grade ore that can be mined very cheaply, which the management is planning to leach. It will not yield up its copper profitably by any other system of treatment, and the experimental work done so far leads the management to believe that this ore will soon be an important source of production. It is estimated that there is nearly 1,000,000 tons of 2 per cent leaching ore in one deposit alone. In addition Shannon has 1,000,000 tons of tailings that carry 20 to 22 pounds of copper per ton, which probably will be leached some time.

Outside of the Shannon group the company is mining a small tonnage of high grade ore from its El Paso group or claims nearby, and is getting such tonnage of iron sulphides as it needs for flux from its Leonard group located near Courtland. Its Copper Bell ores carry a heavy excess of iron and sulphur from 3 1/2 to 2 copper and 1.60% in gold and silver. As a rule these ores cost about 7% per ton more than they yield in copper, gold and silver; but they are so valuable a flux that their use adds to Shannon's profits. Recently the Leonard group ores have been running higher in copper than previously.

In a property adjoining and partly surrounding Shannon's and group of four claims, the Arizona Copper company has developed a very good deposit of porphyry concentrating ore. Indications are that Shannon has a big shoot of ore on the same dike. This property probably will be prospected soon.

Last year Shannon's copper cost was 11.42 cents per pound. The principal reason for this was that more low grade ore was mined and sent to both mill and smelter than would have been had the price of copper been lower. The company simply took advantage of the fact that more of its low grade ores could be handled profitably on a high metal market. An advance in wages and the reduction in working hours also contributed to the higher copper cost.

Since the first of the year the management has been making a special effort to cut expenses and to increase the efficiency of its workmen. I understand that it has succeeded in cutting down its copper cost materially.

With the metal selling at 15 1/2 cents Shannon should be able to make a profit of 3 1/2 to 4 cents a pound of copper produced and earn between 1.60% and 2% a share for its stock for many years to come.—Clifton Copper Era.

Copper Queen Co. Gets No Extension.

The Copper Queen Company, which has been working the claims of the Sheehy Bros., Wm. Murphy and P. J. McCarty and others, in the Harshaw district, near the World's Fair, for the past few months, has moved off, on account of being unable to secure an extension of time. The group consists of eight claims, and the time for the first payment was up on the first day of May, having been extended to that date by the owners of the claims, from the 9th of April.

While the big company has moved off, bed and baggage, it is understood it was the desire to stay and further develop the property, and the action in moving off was caused solely by inability to get a further extension of time. It is claimed the property is now looking better than at any time since the Phelps-Dodge interests have taken hold and while the lower tunnel is not in far enough to catch the vein to which it was being driven, the showing is said to be sufficient to satisfy even the Copper Queen engineers.

This group of claims is just below the World's Fair, and not over a mile and a half from the Three R, which has been producing at the rate of over a hundred tons a day for months. It was confidently expected the big copper company would take up its option

on the claims, as the development work was said to be progressing very satisfactorily, and the amount of the first payment was only a few thousand dollars.

That failure to get an extension on the option, and for no other reason, was the cause of the big company moving off is well known by local mining men. Originally the day of the first payment was fixed at April 9th. The company worked the full crew of probably thirty men up to the last minute on the 9th and not even the owners of the claims, nor Ed. Sheehy, acting for the owners, knew that an extension was wanted. It seemed certain the company had decided to take the claims. However, on the next day, the engineer in charge requested of the owners an extension of time up to the first of May. This extension was gladly granted. When the first of May arrived, there was nothing to indicate the company had any intention of abandoning the ground. The full crew worked on the day the option was up, as it had done on the other occasion. On the night of the first, the Copper Queen engineer, Donald G. Miller, made a trip to the Sheehy Camp near Tubac, for a consultation with E. T. Sheehy, representing the claim owners.

Evidently the men interested in the group had decided the claims were worth as much to them as to the big copper company or perhaps they were disappointed at the eleventh hour manner of doing business—at any rate the extension of time requested was not granted, and the Copper Queen Company has moved off the ground.—Santa Cruz Patagonian.

Mill For Prospectors.

Nearly a year ago this paper published an article describing a quartz mill known as the Humphreys patent. At that time a mill was set up in this city, and some ore was run in testing the mill. It was the first mill of the kind built, and was crude in many respects, although the principal seemed to be a good one. Since that time much time and study has been devoted to perfecting details of construction, until it is now believed the weak points of the mechanism have been eliminated.

Mr. M. Pike, who is a practical machinist, has in the past few months made many changes in the details of the mill, until he has succeeded in so perfecting it that it feeds automatically and is handy and practical in every way. In making the machine, care has been taken that no part shall weigh more than 300 pounds, thereby making it practicable to set it up at points which can be reached only by trail.

The crushing of the ore is affected by means of four hammers which are connected with a revolving shaft. These hammers strike a blow which is slightly glancing, thereby scouring the pulp, and it is claimed for the mill that in this respect the hammers are superior to stamps, especially in the working of an ore in which the gold is coated with iron. The capacity of the mill is about eight tons in twenty-four hours, upon quartz ore of average hardness. A 5-h.p. engine will furnish ample power to run the mill alone, while a slight increase in power will also run a concentrator, should concentration prove desirable.

The patterns and details are about finished and the Arizona Mine Supply Company, under contract with Mr. Pike, will shortly be able to furnish the mills at a cost of \$600.

Mr. Pike has shown his confidence in the mill by securing an option upon the old Hopper mine, upon the ore of which one of the mills will be operated as soon as it can be completed and set up. In setting up the Humphreys mill, it is only necessary to place it upon a solid foundation, preferably one of cement. This can be done at small cost, as rock is available everywhere and a few sacks of cement can be readily packed to the millsite.

Mine owners having ore which is not quite good enough to ship, but which carries good milling values

when worked at the mine, will lose nothing by looking into the merits of the new mill. Its low cost and ease of transportation, at least, are points in its favor which are manifest to all.—Prescott Courier.

The Ray Consolidated.

President Sherwood Aldrich of Ray Consolidated, has just returned from a three weeks' visit to the property, and speaks enthusiastically of conditions there. March scored a new high record production, and the lowest cost per pound yet attained. The tonnage treated was 791,956. To a Boston News Bureau representative Mr. Aldrich said: "Six years ago, when we purchased the property there were no more than fifty people within a radius of twenty-five miles, today there are 10,000. At that time there was developed 600,000 tons of ore, no surface equipment, and not to exceed one mile of underground workings, while the only means of transportation was the washed-out grade of a narrow-gauge road built by the former owners from the mine to an experimental mill at Kelvin. Today we have 85,000,000 tons of developed ore and are producing about 6,500 tons daily. Furthermore transportation is being conducted over our own standard gauge road and in our own equipment to the Arizona and Eastern connection at Ray Junction. The surface plant at Ray is capable of mining and delivering almost any tonnage of ore that can be broken in the stopes and trammed at assembling points. The Hayden mill and power plant have been partially completed and the eighth section should be ready for operation within thirty days. A steadily increasing tonnage of copper is being treated at a steadily decreasing cost per pound and there is rapidly accumulating a considerable surplus for dividends. I have very little doubt that before the end of the year we will be treating 8,000 tons of ore daily, the amount for which we have been receiving for the past two years. Ray's record output of 4,420,000 pounds in March was produced at a cost of about nine cents a pound, which figure was reached after a charge of 12 1/2 cents a ton against prepaid development which item added from 1/2 to 3/8 cent per pound to cost."

Bundesturnfest.

One of the greatest gatherings ever held in America will take place in Denver this summer when the Germans will have their international turnfest. The festival will begin June 25 and last five days. After that the visitors will begin sight-seeing tours that will occupy almost the whole summer. Thousands of Germans will go to Colorado and an equal number of people who are not Teutons will go along to take advantage of the exceptionally low railroad rates.

The turnfests are held once every four years. The coming one is the first that has ever been held in the West and will likely be the last—at least for a century. Germans from every quarter gather to engage in international competitions in athletics, singing, dramatic productions, literature, oratory and other matters. The festivals are the nearest approach America has to the world-famous Olympic games of Europe.

Mines More Made than Discovered.

"Mines are more often made than discovered," D. C. Jackling, the pioneer in the "porphyry" copper field, remarked recently. "I can recall almost no instance of big copper mines developed in the last few years that were not known for years before their development was taken up. Of course, development of mining and metallurgical methods is responsible for the existence of many great mines of today. In the early rush of prospectors great properties were passed over that later became more valuable than the richest of the early strikes."

"Take Utah Copper, for instance, the first and largest porphyry copper mine and considered by some to be the greatest copper mine in the world. The richest shoots were discovered and worked by men of Johnston's army returning from California thru Utah. The Ray Consolidated property was examined by Dr. James Douglas in 1883, but at that time methods had not been found that could handle its immense tonnage of low grade ore at a profit."

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